

AMENDMENT UNDER 37 C.F.R. § 1.111
Appln. No. 09/834,501

PATENT APPLICATION

REMARKS

Reconsideration and further examination of this application is hereby requested. Claims 12-20 are currently pending in the application. Claims 1-11 have been canceled. Claim 20 is newly added.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

A. INDEFINITENESS REJECTIONS

Claims 1-19 have been rejected under 35 USC § 112, ¶ 2d as being indefinite. This rejection is respectfully traversed based on the following comments.

The Examiner has suggested that "support" in claim 12 be amended to read --supports-- (plural). This suggestion has been adopted by the present amendment.

The Examiner has indicated concern about the use of "sufficiently" in claim 12. Claim 12 has been re-phrased to use language that more clearly indicate the support structure as being wide enough to support a semiconductor article thereon.

The balance of the Examiner's concerns are directed to now-canceled claims and are, thus, moot.

For the foregoing reasons, Applicant respectfully submits

that this rejection has been overcome by amendment.

B. OBVIOUSNESS REJECTIONS

Claims 2, 3, 12, 13, 16, and 17 have been rejected under 35 U.S.C. § 103(a) as being obvious over Yamazaki (U.S.P. 5,302,226) alone. Claims 6, 10, 15, and 19 have been rejected under 35 U.S.C. § 103(a) as being obvious over Yamazaki in view of Cheng (U.S.P. 5,304,248). Claims 8, 14, and 18 have been rejected under 35 U.S.C. § 103(a) as being obvious over Yamazaki in view of Turner (U.S.P. 5,509,464). Claims 2, 3, 12, 15-17, and 19 have been rejected under 35 U.S.C. § 103(a) as being obvious over Cheng alone. Claims 1-6, 10-13, 15-17, and 19 have been rejected under 35 U.S.C. § 103(a) as being obvious over Aruga (EP 0628624) in view of Hongoh (U.S.P. 6,358,324). These rejections are moot as to now-canceled claims 1-6, 8, 10, and 11. As concerning claims 12-19, these rejections are respectfully traversed based on the following arguments.

B.1. MULTIPLE ARTICLE SUPPORTS AND STEMS

When considered together, the Yamazaki, Cheng, Turner, Aruga, and Hongoh references do not teach or fairly suggest the claimed limitations of multiple article supports and stems. Independent claims 12 and 13 recite "two article supports" and "two stems," and independent claim 16 recites "first article support," "second article support," "first stem," and "second

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stem."

The Examiner has conceded that the prior art shows only single versions of these limitations and contends that modifying the prior art to have dual structure is *per se* obvious as a mere repetition of parts for the purpose of increasing production throughput. In support of this contention, the Examiner cites as authority *In re Harza* 124 U.S.P.Q. 738 (C.C.P.A. 1960) and *St. Regis Paper Co. v. Beemis Co., Inc.*, 193 U.S.P.Q. 8, 11 (7th Cir. 1977).

First of all, the prior art does not suggest such a modification. In fact, considering the substantial investment that semiconductor fabrication factories had made in machines for processing one wafer per chamber, it would be a substantial barrier to change for anyone to make the change over to chambers that are such a different size and configuration as for processing two wafers side-by-side. The new dual wafer chambers would almost certainly not bolt to the old wafer handling equipment, thus requiring the engineering of entirely new systems, not just a new chambers. This would be prohibitively expensive. Rather than being obvious, such a change would have been viewed in the conventional wisdom of the art to be impractical folly when this invention was made.

Second of all, the motivation identified by the Examiner

(increased throughput) is not found in the prior art. Rather it is derived from Applicant's own disclosure. See numbered paragraph 17 at the top of page 4 of the specification as originally filed). This is impermissible hindsight. Although looking back is a necessary part of the Examination process in order to determine the appropriate scope of search of the prior art, re-construction of the claimed invention based on Applicant's own teachings is not permissible under the law.

Thirdly, the case law precedent relied upon as authority for the proposition that duplication of parts is an obvious modification are based on unsound reasoning. The *Harza* decision predates the landmark decision in *Graham v. Deere*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and relies on the now-discredited logic that a "new and unexpected result" is necessary for patentability. That is clearly no longer the law after the *Graham v. Deere* decision. The *St. Regis Paper* decision is not binding precedent as it was decided by the 7th Circuit Court of Appeals. The reasoning that the *St. Regis Paper* decision is based is also flawed because it requires that the invention "create a synergistic combination" in order to patentable. That also is clearly not current law. Although the *St. Regis Paper* opinion cites to *Graham v. Deere* as controlling precedent, it is clear that the *St. Regis* court did not understand *Graham v.*

Deere.

Accordingly, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 12-19.

B.2. LOCATION OF PUMPING PORT

Independent claim 13 recites the limitation that the pumping port is located at least partially beneath each of the two article supports. See the last three lines. Independent claim 16 recites a similar limitation.

In order for a patent claim to be obvious, the prior art must disclose or suggest each and every limitation recited in the claim. That is because the claim must be considered as a whole.

It may not be distilled down to a simplified "gist" for purposes of an obviousness analysis.

This limitation of the pumping port location is not simply a duplication of parts. Moreover, this limitation is not taught or fairly suggested when the Yamazaki, Cheng, Turner, Aruga, and Hongoh references are considered together.

Accordingly, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 13 and 16-19.

C. NEW CLAIM 20

New claim 20 has been added to recite the limitation of "a partition extending from a top wall of the chamber body downward between the plural article supports." This limitation is supported in the specification at numbered paragraphs 19 and 54.

When considered together, the Yamazaki, Cheng, Turner, Aruga, and Hongoh references do not teach or fairly suggest this partition limitation. Accordingly, Applicant respectfully submits that claim 20 is patentable over the prior art.

D. CLOSING

In view of the above, Applicant respectfully submits that independent claims 12, 13, 16, and 20 are patentable over the prior art. Applicant further submits that dependent claims 14, 15, and 17-19 are patentable, at least as being dependent from patentable independent claims, and are further patentable due to the additional limitations recited therein.

For the above reasons, Applicant respectfully submits that the application is in condition for allowance with claims 12-20.

If there remain any issues that may be disposed of via a telephonic interview, the Examiner is kindly invited to contact the undersigned at the local exchange given below.

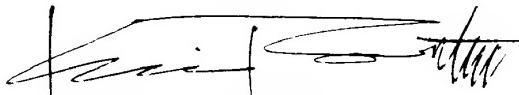
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The Director of the Patent and Trademark Office is authorized to charge any necessary fees, and conversely, deposit any credit balance, to Deposit Account No. 18-1579.

Respectfully submitted,

ROBERTS ABOKHAIR & MARDULA, LLC



Kevin L. Pontius
Reg. No. 37,512

Please direct phone calls to:
Kevin Pontius at (703) 391-2900

Please continue to direct correspondence to:
PATENT COUNSEL
APPLIED MATERIALS, INC.
Legal Affairs Department
P.O. Box 450A
Santa Clara, CA 95052

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Amend claims 12-15 as follows:

12. (Once Amended) A processing system for simultaneously processing [plural] two semiconductor articles under substantially identical process conditions, the processing system comprising:

a chamber body having a bottom wall with a pumping port formed therein;

a vacuum pump in fluid communication with the pump port; [plural] two article supports disposed inside the chamber body, each of the [plural] two article [support] supports comprising: an upper surface, and a lower surface facing the bottom wall; and

[plural] two stems, each supporting a respective one of the [plural] two article supports, each of the [plural] two stems extending from the bottom wall to the lower surface of its respective article support;

wherein each of the [plural] two article supports is [sufficiently] wide enough to support one of the [plural] two semiconductor articles on its upper surface, and wherein each of the article supports is substantially wider than its respective stem.

13. (Once Amended) A [The] processing system [of claim 12,]
for simultaneously processing two semiconductor articles under
substantially identical process conditions, the processing system
comprising:

a chamber body having a bottom wall with a pumping port
formed therein;
a vacuum pump in fluid communication with the pump port;
two article supports disposed inside the chamber body, each
of the two article support comprising: an upper surface, and a
lower surface facing the bottom wall; and
two stems, each supporting a respective one of the two
article supports, each of the two stems extending from the bottom
wall to the lower surface of its respective article support;
wherein each of the two article supports is sufficiently
wide to support one of the two semiconductor articles on its
upper surface, wherein each of the article supports is
substantially wider than its respective stem, and wherein the
pumping port is located at least partially beneath each of the
[plural] two article supports.

14. (Once Amended) The processing system of claim 12, wherein
each of the [plural] two article supports is supplied, via its
respective stem, with DC potential, helium gas, and coolant.

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15. (Once Amended) The processing system of claim 12,
wherein each of the [plural] two stems comprises bellows
permitting linear motion, along a longitudinal axis of that stem,
of the respective article support with respect to the bottom wall
of the chamber body.